

WILLIAM HUNTER AND HIS WORK IN MIDWIFERY.

THE HUNTERIAN SOCIETY'S HUNTERIAN ORATION,
DELIVERED AT THE BARBERS' HALL ON
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[AFTER some preliminary observations, in the course of which he stated that one of the rules of the society laid down that the primary purpose of the oration was to commemorate the life and work of John Hunter and his brother, William Hunter, Dr. Andrews continued as follows:]

William Hunter was born at Long Calderwood in Lanark in 1718, of a younger branch of an old Scotch family. In 1731 he went with a bursary to Glasgow University, where he remained for five years. He then began to read for the ministry, but changed his mind, finding that he "could not subscribe to the dogmatical articles of faith," and applied for the post of schoolmaster of his native village, but fortunately failed to get the appointment. From 1737-1740 he lived with Dr. Cullen at Hamilton. There seems to have been some sort of partnership between the two men, and an arrangement was made by which one of them attended the medical school during the winter, while the other looked after the practice. Cullen said of him: "His conversation was remarkably lively and simple, and his whole conduct was more strictly and steadily correct than that of any other young person I have ever known." Cullen later became Professor of Medicine at Glasgow and afterwards at Edinburgh. The friendship between Hunter and himself, begun early in Hunter's career, continued to the end. In 1740 Hunter attended Alexander Monro's lectures in Edinburgh. In 1741 he came up to London, bringing a letter of introduction from Mr. Foulis, printer at Glasgow, to Dr. Douglas, another Scotsman, who lived in Covent Garden. For a short time he lived with Smellie, who at that time was in practice in Pall Mall. After a few months he became assistant to Dr. Douglas, an obstetrician of considerable eminence, who was then engaged on an anatomical work on the bones, which he did not live to complete. William Hunter became a trusted and valued friend of Douglas and his family. While assistant to Douglas he entered as a surgeon's pupil at St. George's Hospital under Dr. James Wilkin, and as a dissecting pupil under Dr. Frank Nichols, and also attended lectures on experimental philosophy by Dr. Desagulier.

"A society of navy surgeons had an apartment in Covent Garden, where they engaged Mr. Samuel Sharpe to deliver a course of lectures on the operations of surgery. Mr. Sharpe continued to repeat this course, till, finding that it interfered too much with his other engagements, he declined the task in favour of William Hunter, who gave the society so much satisfaction that they requested him to expand his plan to anatomy, and at first he had the use of their room for the lectures. This happened in 1746. At first he practised both surgery and midwifery, but to the former of these he had always an aversion. James Douglas had acquired considerable reputation in midwifery, and this probably induced Hunter to direct his views chiefly to the same line of practice.

"He owed much to his abilities and much to his person and manner, which eminently qualified him for the practice of midwifery, and soon gave him a decided superiority over his countryman, Dr. Smellie, who to the weight of great experience united the reputation he had justly acquired by his lectures and writing; but his person is said to have been coarse, and his manner awkward and unpleasing, so that he never rose into any great estimation among persons of rank" (Simmons). His lectures, which began in 1746, were continued until 1783. In 1747 he was admitted to the Corporation of the Surgeons of London. In 1748 he made a tour through Holland to Paris, and on his way visited the Dutch anatomist Albinus at Leyden, whose "admirable injections," as he afterwards told Dr.

Cullen, "inspired him with a strong emulation to excel in that elegant and curious branch of anatomy" (Simmons).

In 1748 John Hunter, who was ten years younger than his brother, came up to London to William, having written to ask leave to do so, saying that if his brother would not take him he would enlist in the army. In this year William was appointed physician - accoucheur to the Middlesex Hospital; in 1749 surgeon accoucheur to the British Lying-in Hospital. In 1750 he graduated Doctor of Physic of Glasgow, and in 1751 he was admitted to the Faculty of Physicians and Surgeons of Glasgow. In this year he settled in practice at 42, Jermyn Street. In 1751 he visited his old home at Long Calderwood, and it is said that from this time until his death in 1783 he never left town except to see some patient in the country. In 1755 he became physician to the British Lying-in Hospital without actual election. In 1756 he became a Licentiate of the Royal College of Physicians of London and a member of the Medical Society. The Corporation of Surgeons notified their disapproval of his desertion of them in favour of the Physicians by fining him £20. In 1764 he was appointed Physician Extraordinary to the Queen. "William was the first man that ever attended any Queen in any country. Queen Charlotte had been attended by a woman in her first confinement . . . and these medical ladies were well educated for their profession, and were commonly the daughters of medical men or clergymen's daughters." (From a letter from Mrs. Agnes Bailie to her brother, Dr. Matthew Bailie (Paget).) In 1767 Hunter became F.R.S. In 1768 he built a house, lecture theatres, dissecting-rooms and museum in Great Windmill Street. In the same year he became Professor of Anatomy to the new Royal Academy. His life was a very full one; Dr. Simmons says, "Although . . . he was established in the practice of midwifery it is well known that, in proportion as his reputation increased, his opinion was eagerly sought where any light concerning the seat or nature of disease could be expected from an intimate knowledge of anatomy." He was a bachelor. He spent a great deal of time dissecting, lecturing, and in building up his museum. He collected books, papers, engravings, pictures, MSS., coins, and curiosities. His library contained more than 12,000 books. Over a hundred years ago the trustees of the British Museum offered £20,000 for only a portion of the coins and medals in his collection. He spent about £100,000 on his museum. Among his friends he numbered Reynolds, Hogarth, Gainsborough, and Johnson. John Hunter, as has been said above, joined him in 1748. The two brothers worked together for some years, John being William's pupil. "If John did at last surpass him, it was William who set him on the way to do it, and until John Hunter went to London, William was the elder brother of the parable, and John was the younger brother in the kingdom of science" (Paget). "William was the pioneer; if it had not been for William we never could have got John." "Of course, to William Hunter, of the two brothers, the general public are mainly indebted; but not entirely so, for John devoted ten years of his life to helping forward the work of William's museum, but it would be akin to sacrilege for us to disrepute between the two brothers or to magnify one at the expense of the other. Their work in connexion with science is one and indivisible; these men will live and speak through us, the heirs of their achievements" (Mather).

In 1755 William took John into a sort of partnership in the lectures; "a certain portion of the course was allotted to him, and he was expected to supply the doctor's place when professional engagements prevented his own personal attendance" (Adams). William used sometimes to say in his lectures: "In this I am only my brother's interpreter." "I am simply the demonstrator of this discovery—it was my brother's" (Adams). "The frequency of such expressions naturally inspired all his pupils with admiration of Mr. Hunter's skill in anatomical researches, and of the doctor's ingenuous conduct" (Adams). In the preface to his *Atlas* William speaks of John "whose accuracy in anatomical research is so well known that to omit this opportunity of thanking him would be in some measure to disregard the future reputation of the work itself."

In 1780 William Hunter was elected Foreign Associate of the Royal Medical Society at Paris, and in 1781 President of the Society of Physicians in London. Mather, in

his book *Two Great Scotsmen: the Brothers William and John Hunter*, says that William was unanimously elected President of the Royal College of Physicians of London. This is probably a misprint, Dr. Mather's meaning being that he was elected President of the Medical Society or of the Society of Physicians in London. In 1782 he was elected Foreign Associate of the Royal Academy of Sciences at Paris.

Hunter's ruling passion was anatomy. He himself said: "Anatomy is the only solid foundation of medicine; it is to the physician and surgeon what geometry is to the astronomer. It discovers and ascertains truth, overturns superstition and vulgar error, and checks the enthusiasm of theorists and sects in medicine, to whom, perhaps, more of the human species have fallen a sacrifice than to the sword itself or to pestilence" (Mather). In 1812 Sir Charles Bell wrote that the school "founded by the Hunters has made all the anatomists of the present day at home and abroad." Teacher says: "The best part of the anatomical museum is the obstetric collection. This comprises over 400 preparations, anatomical and pathological, which represents all that is permanent of the material foundations of the works on which chiefly rests the fame of William Hunter—namely, his immortal work, *The Anatomy of the Human Gravid Uterus Exhibited in Figures*." Dr. Matthews Duncan considered that William Hunter was "certainly one of the greatest anatomists that has ever flourished in this country or in any other." His observations were "all true and containing all the truth." "His name has been kept constantly before the profession as the founder of the science of obstetrics." "Yet it is necessary with a view to justice to point out that his obstetric fame is chiefly anatomical, and that his greatest claim on our admiration and gratitude arises from his anatomical work and influence" (Harveian Address, June, 1876, *Edinburgh Medical Journal*, vol. xxi).

I will conclude this short sketch of his life with two extracts from Paget and Simmons.

William Hunter "looks in his portraits a fastidious, fine gentleman; but he worked till he dropped, and he lectured when he was dying. His school was at its zenith, and he gave his whole mind to it; he stood high above the men of his time for the charm and eloquence of his lectures. He held two hospital appointments, and his private practice was one of the largest in London" (Paget).

"All who knew him allow that he possessed an excellent understanding, great readiness of perception, a good memory, and a sound judgement. To these intellectual powers he united uncommon assiduity and precision, so that he was admirably fitted for anatomical investigation" (Simmons).

"Dr. Hunter, at the head of his profession, honoured with the esteem of his Sovereign, and in the possession of everything that his reputation and wealth could confer, seemed now to have attained the summit of his wishes. But these sources of gratification were embittered by a disposition to the gout, which harassed him frequently during the latter part of his life, notwithstanding his very abstemious manner of living.

"At length, on Saturday, the 15th of March, 1783, after having for several days experienced a return of wandering gout, he complained of great headache and nausea. In this state he went to bed, and for several days felt more pain than usual both in his stomach and limbs.

"On the Thursday following he found himself so much recovered that he determined to give the introductory lecture to the operations of surgery. It was to no purpose that his friends urged to him the impropriety of such an attempt. He was determined to make the experiment, and accordingly delivered the lecture, but towards the conclusion his strength was so exhausted that he fainted away, and was obliged to be carried to bed by two servants. The following night and day his symptoms were such as indicated danger; and on Saturday morning Mr. Combe, who made him an early visit, was alarmed on being told by Dr. Hunter himself that during the night he had certainly had a paralytic stroke. As neither his speech nor his pulse were affected and he was able to raise himself in bed, Mr. Combe encouraged him to hope that he was mistaken. But the event proved the doctor's idea of his complaint to be but too well founded, for from that time till his death, which happened on Sunday, the 30th of March, he voided no urine without the assistance of the

catheter, which was occasionally introduced by his brother.

"The latter moments of his life exhibited an instance of philosophical calmness and fortitude that well deserves to be recorded. Turning to his friend Mr. Combe, 'If I had strength enough to hold a pen,' he said, 'I would write how easy and pleasant a thing it is to die'" (Simmons).

I have included part of the last paragraph to show that, in spite of their quarrel over priority in certain anatomical discoveries, to be mentioned later, the brothers were reunited at the end of William's life.

William Hunter lectured from 1746 until within a few days of his death in 1783, with John as an assistant or partner for four years, 1755-1759. Teacher says: "Dr. Frank Nichols professed to teach anatomy, physiology, and the general principles of pathology and midwifery in 39 lectures; Hunter's course extended over four months, and consisted of about 112 lectures—2 introductory, 80 anatomical, 15 on operative surgery, 3 on making preparations and embalming, 12 on midwifery, about half of them anatomical." Parts of some of these lectures were what we should now call gynaecological. There are many manuscript copies of his lectures on midwifery, but none of them authorized by himself. It is to be regretted that he did not authorize some copy, for, as Matthews Duncan says, "None of us who are teachers would confide the accurate statement of our words to tradition through the pens of students." An example of this is seen on page 23 of the MS. copy of notes from his lectures in the Royal College of Surgeons' library: "As to the distribution of the arteries and veins (in the umbilical cord) they are different, some are regular twisted, some are not twisted at all, but run quite straight, these twistings occasion perhaps the knots so that from the number of lumps it is easy to tell how many children a woman will have afterwards!" We can only speculate as to the explanation of this. It may be that Hunter referred, in passing, to some old wives' tale or superstition, in which midwifery is still rich. He told his students that he did not profess to teach them midwifery, but only to give them a few general rules. "Notes of these lectures were treasured by their owners as valuable books of reference all through their lives. . . . Hunter desired his students to attend two courses, which they were able to do in one winter, and during the first to take no notes. 'His business is first of all to get clear ideas of everything, his eyes and ears are to be employed in that service only. He is first to understand, let him remember as he can.' In the second course of lectures he should take careful notes and rewrite them afterwards" (Teacher). Adams, who attended the lectures, wrote: "His person, though small, was graceful; his cast of features regular and interesting; his voice musical, his manners attentive and flattering. In short, Hunter was a polite scholar, an accomplished gentleman, a complete anatomist, and probably the most perfect demonstrator as well as lecturer the world has ever seen." In reading the manuscript notes we learn that Hunter impressed points on the students by passing round specimens and preparations from his museum, sometimes with such a remark as this: "Now let me set all modesty and all appearance of it aside and say here is the finest preparation in the world." There are a raciness, an enthusiasm and an evidence of a sense of humour running through his lectures which would keep the students' attention from wandering; for example, "You cannot conceive anything lying snuggler than the foetus *in utero*. This puts me in mind of Hogarth. He came to see me when I had a gravid uterus to open, and was amazingly pleased: 'Good God,' cries he, 'how snug and complete the child lies, I defy all our painters in St. Martin's Lane to put a child in such a situation.'" "As the child lies in this snug position there is a strong expression of a pleasant sleep, a seclusion or retirement from the world; it is very expressing." "This miscarriage I know as well myself as I do a man's face from a sheep's, it is as distinct from any other sort of membrane." After explaining to the students that the fetal circulation was distinct from that of the mother, he said: "There is one account of a woman who flooded until she was dead with the child within her, afterwards the child was taken out, and found to be without any red blood. This is alledged as a proof that the blood passed from the mother, or in this case rather from

the child, who as well as the mother, died from a loss of blood. Thus it is inserted (*sic*) but they are deceived, for I have seen many of these cases. The child in such cases has died, but on opening it we found it always to be just as full of blood as ever. There is no believing these things unless they come from a man of great accuracy and delicacy. He should be accurate in his observations, and faithful in his narratives. These two qualifications do not combine together among philosophers and learned men once in a hundred times; most philosophers, most great men, most anatomists and most other men of eminence lie like the devil!" After describing a case of "mortification of the vagina" in which the "whole of the inside of the vagina entirely sloughed off, and the side of the thighs and hips, etc., sloughed away," and the woman recovered, he says: "Now you will say, gentlemen, that this is one of *Hunter's cases*, but if you do say so it will not be of so much use, as I mean it because there has not been the least circumstance exaggerated." "A contracted uterus can be no more inverted than a stiff jack-boot, but when it is soft and relaxed you may invert it." In talking of the weaning of infants he says: "The first night afterwards a little sac whey with barley water is the best thing in the world. This makes them a little drunk, they all like it, and afterwards go to sleep very comfortable." "There are two things at the time of labour which I am frightened at (all the others I do not care a sixpence for), one is a flooding and the other convulsions." It is interesting to note that Dr. Hunter had a "great opinion of bleeding and giving opium in large and frequent doses in cases of puerperal convulsions."

In reading his lectures one is much struck by the common sense of his teaching, the freedom from mystery, and by his refusal to follow in a groove simply because it is a well-worn one. Again and again one notices what a modern note is in his views. His attitude is accounted for by the following remark: "I have as great a deference to what is natural before what is artificial as I have to the great Superintendent and Creator of the World before all the whims of the greatest philosophers." As regards the position of the child *in utero* he says: "Common opinion is that it sits upright, and that in the later months of uterine gestation the child turns itself, and the head gets downwards." Hippocrates taught that the child presented by the breech up to the seventh month, when it suddenly turned over and presented by the head. This has often been described as the "culbute." Hunter remarks in the MS., published after his death: "With regard to the mother, the most common situation of the child by far is with the head downwards and its nates at the upper part of the uterus. Once, perhaps, in twenty or thirty cases, it is the contrary, and presents, as they term it in midwifery, with its posteriors. All the observations that I have been able to make in dissections and in the practice of midwifery would persuade me that the child's head is naturally downwards through all the later months of utero-gestation, and that neither reason nor instinct teaches it at a particular time any trick of a tumbler or rope-dancer." "The management of pregnant women should be very simple; she should live when with child just as at another time . . . it is rather an absurd practice for a man midwife to be called in for all the diseases of child-bearing. He may as well be called in to set a fractured leg because a woman is with child." Miscarriage is most likely to occur at the third month; "this I have learnt from experience, and I much dislike what is said by writers, because I find it so different from what appears to me in practice." Maubray, who was one of the chief obstetricians in the early part of Hunter's time, preferred a seven months' to a nine months' gestation, on account of "the influence of the moon and the mystical value of the number seven" (Fox). This was a survival of mediaeval views, still believed in by many laymen, and, unfortunately, though not with the same explanation, by many medical men at the present day.

Hunter in his lectures says: "At seven months a child may live, but it generally dies; at eight months most children live as well as at nine." A good example of accurate observation and common sense "discovering and ascertaining truth, overturning superstition and vulgar error, and checking the enthusiasm of theorists." "Some have a notion that a live child helps itself (in labour) but this is certainly a mistake as far as I have been able to observe."

His honesty is shown by the way in which he was not afraid to chronicle his own mistakes, if by so doing he could impress a point on his students. He gave a detailed account of a case in which he ligatured what he had taken to be a fibroid polypus in a nullipara. The patient died, and he found that what he had ligatured was an inverted uterus with a sessile tumour in the fundus. "When I can be of any service by telling a failure of my own I shall relate it readily, though not with that pleasure as a case wherein I have been successful." He did not pretend to knowledge which he did not possess, and was not afraid of his remarks appearing to be bald and scanty if he had no certain opinion to give on the subject. For example, all that he says in his lectures on the subject of sterility is: "Barrenness proceeds from many causes and is quite inexplicable."

His account of the management of labour is well worth reading for its shrewd common sense, and his advice to students as to how to manage the patient. "In most cases though I pretend to be doing something yet I do very little for them, and hardly anything more than to take off the reproach of my doing nothing at all." We will consider his advice about the management of the third stage of labour later. "I think the best way of managing the menses is to pay very little regard to them. Mothers are concerned for their daughters, they all believing if they have ill health that it is always to be imputed to the menses, and on this account they think that you should begin particularly to set the menses to rights. Now my opinion is that you should not pay any regard to them, but endeavour to put her to rights in other respects. If you cure the other disorders you cure the irregularity in her menses which is the consequence only, and not the cause of her complaints. . . . This is my serious opinion in which I am confirmed daily more and more." He shows how two patients, one of whom is bleeding too much and too often, while the other is losing too little, may both be cured by exactly the same general treatment. This is an early example of the importance of treating the patient rather than the symptoms.

The Anatomy of the Human Gravid Uterus Exhibited in Figures.

This, Hunter's greatest work, was begun in 1750, and published in 1774. In the preface, after speaking of the engravings and descriptions of the anatomy of many parts of the body, he says, "Most of the principal parts of anatomy have in this manner been successfully illustrated. One part, however, and that the most curious and certainly not the least important of all, the pregnant womb, had not been treated by anatomists with proportionable success; let it not, however, be objected to them that they neglected what in fact it was rarely in their power to cultivate. Few or none of the anatomists had met with a sufficient number of subjects, either for investigating or for demonstrating the principal circumstances of utero-gestation in the human species." In 1750 Hunter procured the body of a woman who died suddenly when nearing the end of her pregnancy. The blood vessels were successfully injected, a most thorough dissection of the uterus and its contents was carried out, and sketches and engravings were made by capable artists. Ten plates were finished in the course of a few months, but their publication was delayed, as more material for investigation came to hand. There are thirty-four plates in all, many of them containing several separate illustrations, and there is a full description of each plate in Latin and in English. Thirteen bodies were dissected, as well as several abortions. Hunter did not allow the artist to paint from memory or imagination, but only from immediate observation. Many plaster-of-Paris casts now in the Hunterian Museum at Glasgow were made from the dissections. "After the last plate was finished, he had an opportunity of procuring drawings to be made from a younger embryo than he had till then seen, and likewise from a very curious case of a conception in the Fallopian tube, which confirmed two opinions which he had before entertained concerning the gravid uterus. It showed that the enlargement of the impregnated uterus does not happen mechanically from the increasing bulk of its contents; it proved at the same time that the spongy chorion or *membrana decidua* belongs to the uterus and not to the ovum, or that part of the conception which is brought from the ovarium. These drawings he intended to have

offered to the public in the way of a supplementary plate" (Simmons). In 1851 the Sydenham Society published a new edition of the *Atlas*. Matthews Duncan (Harveian Address) said: "This immortal work is one of the staple foundations of the science and art of midwifery, and cannot fail in all future ages to be as valuable and useful as it is now." Waldeyer considered that it contained the foundations of our present knowledge of the anatomical relations of the membranes and the gravid uterus. Professor Gross of Philadelphia (Mather) said: "In midwifery William Hunter stood pre-eminent. His *Anatomy of the Human Gravid Uterus*, a magnificent folio volume on which he was engaged for nearly thirty years, alone was sufficient to insure his immortality." Teacher says: "The nature, origin, and anatomical relations of the decidua are here described and figured as well as they are now or can be." To go to Hunter's *Atlas* from the illustrations of books on midwifery before his time is to go at one step almost from the Middle Ages to the present day. Hunter's other chief work is *An Anatomical Description of the Human Gravid Uterus and its Contents*. He left this as an unfinished MS., and it was first published by Matthew Baillie in 1794, eleven years after Hunter's death. In reading this book, just as in reading the MS. of the lectures, we are struck again and again by the modern character of many of the views expressed, and by the evidence of William Hunter's courage in discarding ideas sanctioned by tradition in favour of those which resulted from his own dissections and investigations; to use his own words, "from all these experiments and observations, which have been often repeated and diligently attended to with no other desire than to discover truth." His observations on the situation of the round ligaments, on pendulous abdomen during pregnancy, on difficulty in delivering the placenta when it has a conical attachment, and on the arrangements of the uterine fasciculi, among many others, are proofs of his infinite capacity for taking pains in accurate observation. His description of the placenta is extraordinarily careful and accurate. In his understanding of the structure of the placenta, which is marvellously accurate when we remember that he worked without the aid of a microscope, he owed a good deal to his studies in comparative anatomy. He had examined the placentae of many animals, and had studied the development of the chick before he was able to demonstrate to his own satisfaction the structure of the human placenta. As was said above, Hunter's MS. of the *Anatomical Description of the Human Gravid Uterus and its Contents* was left unfinished. Matthew Baillie, when he edited it in 1794, added to it a description of the decidua from what he considered to be William Hunter's views, which, on the other hand, really represented those of John. Fortunately the lectures contain a sufficiently full description of the decidua for us to know William Hunter's own views. From the remarks of Dr. Simmons quoted above, made in the year of Hunter's death, there is no doubt that the correct view—that of William—was understood at the time. Rigby, who brought out a new edition in 1843, showed clearly where Hunter's MS. finished and where Matthew Baillie's addition began. This unfortunate action of Matthew Baillie undid the good work done by William Hunter, as it was generally thought that the account of the decidua published in the book represented William Hunter's later and considered opinion. In 1780 John Hunter communicated to the Royal Society a short paper "On the Structure of the Placenta," with the intention of establishing his own claim to some discoveries made in 1754. He gave some of the credit to Dr. MacKenzie, who had been assistant to Dr. Smellie. William wrote to the Royal Society claiming the discovery as his own; then John wrote again. The society refused to take up the dispute or to publish John Hunter's paper. "As to the absence of communication between the circulation of the mother and that of the foetus, the fact that 'nothing can pass from the one to the other without rupture or transudation' was proved by William Hunter. He described the placenta as being made up of two parts, the one, uterine, being decidual, the other, foetal, being formed by the prolongations of the branchings of the vessels of the umbilical cord. These two elements he was able to separate in the placentae of many of the lower animals; also, however

finely he might inject the vessels of the uterus, those of the umbilical cord always remained uninjected. 'It was this appearance in the cat and bitch that first led me into the apprehension that the human placenta was the same.' Needham had been of the same opinion one hundred years before, and Harvey at about the same time had said that there was no mixing of the two bloods. But Hunter supplied actual anatomical proof. Before the results of Hunter's researches were published the prevailing idea had been that maternal blood passed into the foetus and came back again to the mother. 'From all that I can make out by injections and every other way, I shall certainly conclude that the red blood does not pass from the mother to the child. I no more doubt this than I do that the blood does not pass from the hen to the chick.' As regards the nutrition of the child, 'the child is entirely nourished by the navel string.' 'For my part I think that all this is done by absorption, and the navel string and its branches are like the roots of a child which are bathed in the blood and juices of the mother, which they absorb and take up and carry to the child, and no doubt what is redundant in the child is returned to the mother.' In 1780 John claimed 'placenta as the root' as his own" (abstracted from Dr. Teacher).

Matthews Duncan wrote: Hunter's "positive assertions in regard to the decidua are that it is continuous with the substance of the womb; that it is the inside of the womb; that it forms the uterine part of the secundines; that it forms the uterine part of the placenta; that it is not extended across the passage in the neck of the womb; that it is continued down into the inner membrane of the cervix; that the Fallopian tubes are not closed by it, but open into its cavity; that in the early weeks it is a thick membrane of a soft or gelatinous texture; that it is abundantly supplied with uterine arteries and veins; that it has a cribriform or punctated surface; that the decidua reflexa is continuous with the decidua vera; that the decidua reflexa is permeated by vessels; that the reflexa thins as it becomes more distant from the placenta, and that it becomes thin from extension, in consequence of the growth of the ovum."

To these may be added the following extracts from Hunter's lectures: "Decidua" or "caduca" instead of "false chorion" or "spongy chorion." "This decidua we shall see is a layer of the uterus . . . the fact is it is the internal lamella of the uterus itself . . . every time a woman conceives and every time she throws off that conception this membrane exfoliates from the uterus; it falls off as staggs' horns or birds' feathers when they shed. This is a very extraordinary membrane which here never was before an idea of." "From anatomical observations, then, we are to conclude that probably the juices do not pass from the mother to the child as red as (*sic*) blood. There is no communication between the vessels of the uterus and those of the foetus, thence probably the child takes its nourishment from the womb of the mother by something analogous to absorption."

Hunter's teaching on the management of the third stage of labour is worthy of being considered at some length:

"Before and during Dr. Smellie's lifetime, 1697-1763, the practice was to deliver the placenta as soon as possible after the birth of the child by pulling on the cord, pressure on the abdomen, and, if necessary, by introduction of the hand into the uterus. The reason for the rapid delivery of the placenta was the fear that the cervix might close up, if time were allowed to elapse, with consequent imprisonment of the placenta. Maubray recommended that the placenta should be extracted 'with all imaginable speed after the child is born, even before the navel-string is cut, because the womb immediately contracts itself.' Chapman says: 'the moment the child is born I slip my right hand into the womb and gently with it assist in extracting the placenta . . . nor would I advise any one to trust to its coming away of its own accord, nor to leave the expulsion of it to Nature'" (Glaister). Smellie said that he had to thank William Hunter for his assistance in reforming the wrong practice of delivering the placenta. Hunter, in his lectures, said: "The hurrying away the placenta is just as bad as hurrying on the labour, and forcing away the placenta is a terrible practice. . . . Nature does work much better for the mother and child than art, therefore no force should be used. . . . I know this to be an improvement of infinite consequence. . . .

In hurrying away the placenta parts of it are apt to be left behind or mischief done to the womb. . . . I set (*sic*) with a lady whom I delivered some time ago for 2 or 3 hours beyond the 24, but it at last came away whole and entire. If I were allowed to give an account of myself I may say I have never been of more service to mankind than in making this my practice and advice. Therefore, leave ye placenta always to Nature. In common cases nothing, or almost nothing, can be done, and notwithstanding this, I feel that whenever I commit an error it is in consequence of my being too much in haste . . . the great art in conducting a natural labour is to do little and wait patiently" (MS.). It is impossible to exaggerate the value of this teaching of Hunter's when we consider the terrible danger that must have attended the insertion of a hand into the uterus as a routine practice in preantiseptic days.

Hunter's teaching on the use of midwifery forceps is well worth study. He insisted on the importance of allowing moulding to take place, so that the presenting part should come down as low as possible before their application in cases in which forceps must be applied, and emphasized the importance of pulling in the axis of the pelvis, more and more forwards as the head descended. He says: "In few cases, I think the forceps an useful instrument; to a poor woman that is quite exhausted they may be of considerable service, but I wish to God they had never been contrived. I am convinced that the forceps has killed three—I may say ten—women to one that it has saved, and therefore, we should never use it on any occasion but where it is absolutely necessary." "A new practice, salutary and useful, perhaps, in a few rare cases, may very naturally by an indiscriminate and frequent use do much more harm than good. This sentiment will not surprise those of the profession who know my opinion of the forceps, for example, in midwifery" (quoted by Glaister).

Dr. Simmons quotes: "I admit that it may sometimes be of service, and may save either the mother or the child. I have sometimes used it with advantage, and I believe never materially hurt a mother or child with it, because I always used it with fear and circumspection. Yet I am clearly of opinion from all the information that I have been able to procure that the forceps (midwifery instruments in general I fear), upon the whole, has done more harm than good." Matthews Duncan said of Hunter: "He knew more of Nature and of its powers, and revered it and trusted it more than his contemporaries." In his lectures Hunter says: "We are greatly improved in midwifery within these twenty years past. What is the great improvement? Why, I am proud to have a share in it; it is bringing it back to Nature."

In Hunter's *Anatomical Description of the Human Gravid Uterus and its Contents* (page 5) is the following: "It must be observed that the cavity does not always correspond with the outward figure of the gravid uterus. In one instance which I met with in a dead body, and still preserve, and in another which I was very sensible of in a living woman, a part or band of the inner stratum of the flesh of the uterus had not stretched in the same degree with the rest, but made a considerable partition internally; a circumstance which might have increased the difficulty, as well as the danger, of rudely turning the child or taking away the placenta with the hand."

I have not found any comment on this important observation. It seems to refer to what is now known as a "contraction ring," which is a more common cause of dystocia than has been realized until recently. For a long time "contraction rings" and "retraction rings" have been grouped together, with the result that there has been much confusion. Dr. Clifford White (*Transactions of the Royal Society of Medicine*, December 5th, 1912) has given the best description of a "contraction ring": "a localized thickening of the wall of the uterus due to the contraction of the circular fibres over a point of slight resistance, most frequently over a depression in the child's outline or below the presenting part." The body of the uterus above a contraction ring is usually relaxed and not tender. The cause is early rupture of the membranes or intrauterine manipulations, not obstructed labour as in the case of a retraction ring, which is the junction of the thinned lower uterine segment with the thick retracted upper uterine segment.

Dr. Eardley Holland has suggested the term "active retention of the fetus by the uterus" as explaining the cause of the difficulty in cases where a contraction ring occurs. Smellie described a case which occurred in 1743. "A laborious one; the uterus contracted before the shoulders of the foetus." This case and Hunter's observation recorded above seem to have been lost sight of for many years. The late Dr. Herman used to insist on the importance, for a thorough knowledge of midwifery, of a study of the works of the men who had gone before.

Hunter has been credited with having been the first to describe retroversion of the pregnant uterus. In Plate XXV in his *Atlas* he figures retroversion of the gravid uterus with retention of urine. In the fourth and fifth volumes of *Medical Observations and Inquiries by a Society of Physicians in London* reference is made to a lecture of his on the subject delivered in 1754. Hunter himself, in the fourth volume (1770) refers to his lecture in 1754. He said in 1770 that he preferred the term "retroversion" to that of "inversion," which had been sometimes applied to the condition. He recorded several cases treated successfully by the use of catheter and clysters, followed, if necessary, by manual reposition. He stated that M. Gregoire had mentioned a case of retroverted uterus in his lectures in Paris, and had advised manual correction, but did not say in what year M. Gregoire's lecture had been delivered. Simmons says: "This disease, although it had been mentioned by M. Gregoire in his lectures in Paris, and my friend, M. Peyrilhe, the learned author of the *History of Surgery*, thinks he has discovered some trace of it in the writing of the ancients, was certainly not understood until Dr. Hunter described it first in his lectures in 1754, and afterwards in one of the volumes of the work in question (*Medical Observations and Inquiries by a Society of Physicians*), since which it has been generally known." Hunter at first suggested that it might sometimes be good practice to tap the uterus and draw off the liquor amnii, but later advised keeping the bladder empty and pushing up the uterus, if it did not go up spontaneously. In his lectures in 1775 he gave the following advice: "Draw off the urine and empty the rectum by an enema, then put the patient upon her knees with her head low, and if the tumour is small get hold of the os tincae and pull it down or force up the body of the uterus by pressing behind till it rises into the abdomen" (MS.). His later advice is followed at the present day, although some textbooks still agree to some extent with his earlier advice, in so far that they advocate emptying the uterus if that organ cannot be pushed up. Experience, however, shows that if the bladder is kept empty the uterus can nearly always be pushed up, and that if it cannot be it is not of much consequence, unless there is ascending infection of the urinary tract. Sooner or later the patient will regain control over her bladder, in spite of the fact that the pelvis is to a large extent filled up by the uterus, and the uterus will, even if only in labour, regain its normal position. Dr. Hooper, in Volume V, showed how well he had profited by Hunter's teaching in the management of two cases. He hoped that keeping the bladder empty would enable the uterus to go up by itself, and if it did not do so he pushed it up.

I have selected typical examples of William Hunter's teaching in which he made notable advance, and hope that I have shown something of the debt that we owe to his untiring zeal and skill as an investigator and teacher.

In Hunter's teaching tradition, superstition, mystery, and guesswork are left behind, and the results of "exact observation, experiment, and the application of anatomical and physiological science" take their place. By his "observations and experiments, which were often repeated and diligently attended to with no other desire than to discover truth," William Hunter built up a position and has left an example and tradition which will last as long as there are a science and an art of medicine.

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A CASE OF MÉNIÈRE'S DISEASE.

BY

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A MEDICAL man who had been overworked and disturbed, but not distressed, by unusual mental excitement in the summer of 1910 had planned to take a golfing holiday in Scotland.

On the day of departure he was summoned to a case in Gloucestershire, with the result that only after much travelling was he able to reach Edinburgh about ten o'clock at night.

He slept badly, and started early next morning, in order to reach his destination. He did so by ten o'clock, and, though very tired and unfit for exertion, played two rounds of golf that day. Next morning, about 6 o'clock, he was waked from sleep by a horrible feeling of vertigo, the pictures in the room seeming to go round, and the bed in which he lay to oscillate from side to side. He was very slightly sick, and quite unable to raise his head without extreme giddiness. He sweated profusely; gradually all symptoms disappeared, except a feeling of extreme prostration.

Not unnaturally, perhaps, he ascribed his experience to fatigue and stomach disturbance, due to over-exertion after much work and over-much travelling.

Six months previously he had had a similar experience, also about 6 a.m., which was thought to be due to a bilious attack. This soon passed off, and in the course of a few hours he was able to get up, eat breakfast, and go to work. With this exception his health had invariably been excellent and his digestion perfect. His only trouble had been increasing deafness in the right ear and a never-ceasing tinnitus, slight on the left, extreme on the right side. This he had learnt to accept as inevitable and incurable. No association between the ear symptoms and the two attacks of early morning vertigo had crossed his mind.

For three days he remained in Scotland, golfing too much; smoking, perhaps, too much, but careful in diet and quite abstemious in the matter of alcohol. Giddiness and very slight vomiting occurred each morning, but he soon recovered and became fit for the day's exercise.

After four days he had to leave hurriedly and go to Cornwall. Though he was naturally tired, he began at once to play golf, and during the first week had several recurrences of early morning vertigo and sickness. Then one night, after chatting with a friend, about 11 o'clock he left the room to go to the lavatory on the other side of the corridor.

Suddenly, while lighting the gas, he felt as though some one had hit him a terrific blow on the head. He fell prone, not losing consciousness, but feeling deadly sick and horribly giddy.

He felt his eyes oscillating violently and vomited uncontrollably. Despite the unpleasantness of this, he was unable to move; any attempt to lift his head was associated with giddiness beyond the power of words to describe. He sweated profusely and lay for perhaps half an hour in the greatest prostration. Finally, he managed to slide to the open door and call out to his friend in the room opposite. By this time he had realized what had happened—that he was suffering from Ménière's disease—so he was able to reassure his friend, and got him to pull him by the heels along the passage into the other room. He could not to save his life have raised his head or have attempted to walk. After lying on the floor for a couple of hours, he was lifted on to a sofa, and remained there sweating and prostrate until 6 o'clock. He was able then to struggle up to bed and to sleep.

Beyond great prostration and weakness no ill effects could be noted, and in a fortnight he was able to leave the west and go to Harrogate. During the fortnight he had several attacks of giddiness, but no sickness, and at no time had he any headache either before or after the severe seizure.

Very foolishly he acted on the advice to have some rather exhausting baths at Harrogate, and in three days again had a severe attack. After a good breakfast he suddenly became very giddy, slipped out of an armchair and lay on the floor vomiting and sweating for two or three hours. Again no loss of consciousness—no headache.

Very slowly he began to gain strength, but any attempt to take exercise or undergo fatigue resulted in an attack of such giddiness that he had to fall or lie down. In the course of a month he was well enough to return to active work, but had to live very quietly and subordinate everything to his duties in hospital or practice.

Once only did he fall down, and that in the street after a very fatiguing day. He frequently got the impression that he was going to be giddy and felt a curious sensation of warmth all over the body as though he were going to sweat, but if he refrained from exertion he was able to avert further trouble.

After two years' incessant watchfulness and care he regarded himself as cured. To-day the deafness of one ear and the tinnitus remain as at the onset, but he is not giddy nor is he ever sick. Two distinctive features characterized each attack—one the feeling of warmth of skin followed by sweating, and the other, when an attack occurred, a feeling as though his brain were loose inside the cranium and being dashed from side to side. For two years the condition was very distressing, on account of a terrible apprehension that he was going to be giddy.

The foregoing is typical of the worst class of cases of Ménière's symptom; there were only three absolutely uncontrollable attacks of giddiness when he fell as though poleaxed, and two or three when he had to lie down, but from 1910 to 1912 there were numerous occasions when he got the sensation of his brain being loose and when he felt warm and sweated. No specific treatment was of use—hydropyric acid upset his digestion and bromide depressed him.

I have seen a considerable number of cases during the last few years, and my experience of treatment confirms my friend's experience. All the cases have done well, and in every case the only useful treatment has consisted in the correction of imperfect digestion, of hypermetropia, of anaemia, and of any other symptomatic conditions, but chiefly in the avoidance of fatigue.

Ménière was of opinion that in certain cases haemorrhage into the labyrinth was the cause of symptoms, but it is quite certain that haemorrhage could not have occurred each time my patient was uncontrollably giddy, though it was possible there might have been some on two occasions.

Most cases occur in people of advanced middle age, and in a large proportion of those among them who have acquired gout, or are undergoing ossification of the structures of the internal ear.

Such changes might predispose to the attacks, but are almost certainly not the cause. Many things point to a vasomotor disturbance being at the root of the trouble, especially the sensation of warmth and the sweating. This suggestion would explain the analogy of somewhat similar symptoms arising from the abuse of tobacco and from sea-sickness.

It is in the highest degree important to discriminate between the vertigo of Ménière's disease and that due to gastric causes, aortic disease, and arterial sclerosis. So many people are unaware that they are deaf on one side that the examination of the ear should be a routine procedure in every case of vertigo.

It has been said that deafness follows Ménière's disease; it might if haemorrhages occurred, but it is infinitely more common to find deafness, slowly and hopelessly progressing, preceding it.

THE late Major Edwin Bedford Steel, who died of wounds on November 23rd, 1914, left estate of the gross value of £1,192, with net personalty £1,176.